BRUHATH BANGALORE MAHANAGARA PALIKE

Name of the Work : Package No.02 (Package consists of 14 works).

Name of the Agency : Benaka Developers & Project Pvt. Ltd.

REPORT FOR
EXECUTIVE ENGINEER,
BYATARAYANAPURA DIVISION
BBMP, BANGALORE.

PROJECT MANAGEMENT CONSULTANTS

TEJUS CONSULTANTS
CONSULTING ENGINEERS AND DESIGNERS
No.58 MIG, 6th Cross, 3rd Main
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Name of the work: Package No.02 (Package consists of 14 works).

Contractor/Agency : Benaka Developers & Project Pvt. Ltd.

Name of the Client : BBMP

Estimated Cost : 9.40 Crore

Status of Bill : 3rd & Part Bill

In the Presence of : (a) Mr. Pushpa Latha N D
Assistant Engineer, BBMP, Bangalore.
: (b) H. Ranganath
Assistant Executive Engineer, BBMP, Bangalore
: (C) Mr. Somesha C D, Site Engineer
M/s Tejus Consultants

	Description of Item of Work	Comments/observation
1	KSRRB M300-1. Earth work excavation by manual means in ordinary soil involving an average horizontal throw up to 2 meters and an average lift up to 0.5m, excavated surface levelled and sides neatly dressed, the disposed earth to be levelled neatly after breaking of clods complete as per specification. MORTH / Chapter 3 (P.No.142, I.No.19.1 of PW, P&IWTD SR 2016-17)	Work done up to the billed quantity and quality is satisfactory
5	Removing and Resetting of Footpath Slab (P.No.265, I.No.37.56 of PW, P&IWTD SR 2016-17)	Work done up to the billed quantity and quality is satisfactory
6	Removing & Refixing Stone slabs of drains and Pointing in C.M(1:3) (P.No.25, I.No.5.33 of PW, P&IWTD SR 2016-17)	Work done up to the billed quantity and quality is satisfactory
7	Providing granite Slabs of Selected quality roughly dressed and fixed in cement mortar (1:6) including fixing curing etc., Complete. 7.5cms thick (P.No.25, I.No.5.31.1 of PW, P&IWTD SR 2016-17)	Work done up to the billed quantity and quality is satisfactory
10	KSRB 4-1.2: Providing and laying in position plain cement concrete of mix 1:3:6 with OPC cement @ 220kgs, with 40mm and down size graded granite metal coarse aggregates @ 0.892 cum and fine aggregates @ 0.465 cum, machine mixed, concrete laid in layers not exceeding 15 cms. Thick, well compacted, in foundation including cost of all materials, labor, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2. (P.No.12, I.No.4.2 of PW,P&IWTD S.R 2016-17)	Work done up to the billed quantity and quality is satisfactory

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11	KSRB 4-6.1: Providing and removing centering, shuttering, strutting, propping etc., and removal of form work for foundations, footings, bases of columns for mass concrete including cost of all materials, labor complete as per specifications. Specification No. KBS 4.6.2 (P.No.15, I.No.4.28 of PW, P&IWTD SR 2016-17)	Work done up to the billed quantity and quality is satisfactory
12	KSRB 4-6.4: Providing and removing centering, shuttering, strutting, propping etc., and removal of form work for vertical surfaces such as walls at any thickness, including attached pilasters, buttresses, plinth and string courses cost of all materials, labor complete as per specifications. Specification No.KBS 4.6.2 (P.No.15, I.No.4.31 of PW,P&IWTD SR 2016-17)	Work done up to the billed quantity and quality is satisfactory
13	Providing and laying cement concrete using 20mm and downsize granite coarse aggregates and fine aggregates of ready mixed concrete (RMC) for RCC works laid in 15cms thick layers and well compacted vibrating, curing, finishing with necessary cement mortar, with all lead and lifts etc., complete (exclusive of cost of steel and fabrication charges) Ready Mixed Cement Concrete M 20 for Raft foundation, Column, Footing, main and secondary beams. (P.No.18, I.No.4.48 of PW, P&IWTD SR 2016-17)	Work done up to the billed quantity and quality is satisfactory
14	KSRB - 4.9.2: Providing TMT steel reinforcement Fe500 for R.C.C work including straightening, cutting, bending, hooking, placing in position, lapping and / or welding wherever required, tying with binding wire and anchoring to the adjoining members wherever necessary complete as per design (laps, hooks and wastage shall not be measured and paid) cost of materials, labor, HOM of machinery complete as per specifications. Specification No. KBS 4.6.3. (P.No.17, I.No.4.46.2 of PW, P&IWTD SR 2016-17)	Work done up to the billed quantity and quality is satisfactory
20	Providing and fixing RCC Precast cover slab of 100mm thick for drain in cement concrete M20 using graded granite jelly 20mm and down size with steel reinforcement, including form work, lift charges, curing and concrete finished surfaces on both sides etc., complete and as per drawing and the directions of Engineer in-charge. (Data Rate)	Work done up to the billed quantity and quality is satisfactory
22	KSRRB M300-14. Excavation for roadwork in soil with hydraulic excavator of 0.90 cum bucket capacity including cutting and loading in tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross sections, and transporting to embankment location and complete as per specifications. MORTH Specification No.301 (P.No.143, I.No.19.14 of PW,P&IWTD S.R 2016-17)	Work done up to the billed quantity and quality is satisfactory

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25	KSRRB M 400-17, Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the Material with water at OMC in mechanical mix plant carriage ' of mixed Material by tipper to site, laying in uniform layers with paver in sub- base/ base course on well prepared surface and compacting with vibratory roller to achieve the desired density. Complete as per specifications. MORTH Specification No. 406 (P.No.158, I.No.20.18 of PW,P&IWTD SR 2016-17)	Work done up to the billed quantity and quality is satisfactory
26	KSRRB M 500-6, Providing and applying primer coat with SS bitumen emulsion on prepared surface of granular Base such as WBM WMM including clearing of road surface and spraying primer at the rate of 0.60 kglsqm using mechanical means complete as per specifications. As per MORTH specification clause No. 502 (P.No.161, I.No.21.6 of PW,P&IWTD SR 2016-17)	Work done up to the billed quantity and quality is satisfactory
27	KSRRB 500-2: Cleaning the existing black topped surface with brooms, soft brushes and finally dusting with old gunny bags and / or compressed air to receive bituminous treatment including cost of all materials, labor, HOM of machineries complete as per specifications. MORTH Spec, Chapter 5 (P.No.161, I.No.21.2 of PW,P&IWTD SR 2016-17)	Work done up to the billed quantity and quality is satisfactory
28	KSRRB M500-7 : Providing and applying tack coat using 80/100 grade bitumen (VG10) on prepared black topped surfaces at 2.5 Kg per 10 sqm, heating bitumen in boiler fitted with spray set (excluding cleaning of road surface) including cost of all materials, labor, HOM of machineries complete as per specifications. MORTH / Chapter 5 (P.No.161 I.No.21.7 of PW,P&IWTD SR of 2016-17	Work done up to the billed quantity and quality is satisfactory
29	KSRRB M500-16. Providing and laying dense bituminous macadam 50-75mm compacted thickness with 4.5% VG-30 Bitumen using 40/60 TPH capacity H.M.P, using crushed aggregates of grading II, premixed with VG 30 grade bituminous binder and transporting the hot mix to work site, laying with mechanical paver to the required grade level and alignment rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH table 500-10, complete in all respects complete as per specification MORTH specification No. 507 (P.No.162 I.No. 21.17.6 of PW,P&IWTD S.R 2016-17)	Work done up to the billed quantity and quality is satisfactory

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30	KSRRB M500-19. Providing and laying bituminous concrete 30-40 mm compacted thickness with VG30 Bitumen grade using 40-60 HMP using crushed aggregates of grading II, premixed with bituminous binder at 5.4% of mix and filler, transporting the hot mix to work site, laying with a mechanical paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 500.9 complete in all respects as per specifications. MORTH Specification No. 509 (P.No.165 of I.No.21.22.6 in PW,P&IWTD S.R 2016-17)	Work done up to the billed quantity and quality is satisfactory
33	Providing and fixing Pre cast solid concrete kerb stones made out of CC 1:2:4 with top and bottom width 114 and 165mm respectively, 400mm high and 450mm in length finished with CM 1:3 plastering and finishing cutting, including formwork, curing, including cost of all materials, labor, hire charges of machinery, loading, unloading, lead and lift, transportation etc., complete (P.No.25, I.No.5.30 of PW,P&IWTD S.R 2016-17)	Work done up to the billed quantity and quality is satisfactory
35	KSRRB 800-1. Painting two coats after filling the surface with synthetic enamel paint in approved shades on new plastered concrete surfaces, with materials, labor complete as per specifications. MORTH Chapter 8 (P.No.182, I.No. 24.1 of PW,P&IWTD SR 2016-17)	Work done up to the billed quantity and quality is satisfactory
36	KSRRB M800-13. Providing and laying of hot applied thermoplastic compound 2.5 mm thick including reflectorizing glass beads at 250 gms per sqm area, thickness of 2.5mm is exclusive of surface applied glass beads as per IRC:35. The finished surface to be level, uniform and free from streaks and holes complete as per specifications. MORTH Specification No. 803.(P.No.185, I.No.24.15 of PW,P&IWTD SR 2016-17	Work done up to the billed quantity and quality is satisfactory
56	Geophysical investigation of site for sinking Bore well for supplying drinking water to the habitation either through the Hand pump, MWS of P.W.S.S by vertical electrical sounding by adopting Venner or Schlumberger's method, including reconnaissance survey of geological formation, Geophysical investigation of existing Ground Water in the vicinity, its quality 1.0 meter in consolidated formation for proper seating of casing pipe, depth of drilling required to cover full depth of aquifer proposed to be tapped, probable yield and other information required including transportation of instrument and accessories to work site., engaging technical personal and labor required etc., as per Specification and direction (P.48, I. 9.4) PRED.SR 2012-13	Work done up to the billed quantity and quality is satisfactory

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57	Sinking bore well of 165 mm dia clear using super-fast hydraulic rig of capacity 250 PSIG & above CFM & above in all struts including over burden up to 20 mts fixing of casing pipes, collars and cap with necessary cutting, threading and welding including transportation of rig and supporting vehicles, crew charges and cost of consumables etc., complete including yield testing at the final depth with a minimum working of compressor for one hour (excluding coat of casing pipes, collars, cap etc.,) P. 46 / I. 9.1 PRED SR 2012-13 - 0 to 50m	Work done up to the billed quantity and quality is satisfactory
58	Sinking bore well of 165 mm dia clear using super-fast hydraulic rig of capacity 250 PSIG & above CFM & above in all struts including over burden up to 20 mts fixing of casing pipes, collars and cap with necessary cutting, threading and welding including transportation of rig and supporting vehicles, crew charges and cost of consumables etc., complete including yield testing at the final depth with a minimum working of compressor for one hour (excluding coat of casing pipes, collars, cap etc.,) P. 46 / I. 9.1 PRED SR 2012-13 - 50 to 100m	Work done up to the billed quantity and quality is satisfactory
59	Sinking bore well of 165 mm dia clear using super-fast hydraulic rig of capacity 250 PSIG & above CFM & above in all struts including over burden up to 20 mts fixing of casing pipes, collars and cap with necessary cutting, threading and welding including transportation of rig and supporting vehicles, crew charges and cost of consumables etc., complete including yield testing at the final depth with a minimum working of compressor for one hour (excluding coat of casing pipes, collars, cap etc.,) P. 46 / I. 9.1 PRED SR 2012-13 - 100 to 150m	Work done up to the billed quantity and quality is satisfactory
60	Sinking bore well of 165 mm dia clear using super-fast hydraulic rig of capacity 250 PSIG & above CFM & above in all struts including over burden up to 20 mts fixing of casing pipes, collars and cap with necessary cutting, threading and welding including transportation of rig and supporting vehicles, crew charges and cost of consumables etc., complete including yield testing at the final depth with a minimum working of compressor for one hour (excluding coat of casing pipes, collars, cap etc.,) P. 46 / I. 9.1 PRED SR 2012-13 - 150 to 200m	Work done up to the billed quantity and quality is satisfactory
61	Sinking bore well of 165 mm dia clear using super-fast hydraulic rig of capacity 250 PSIG & above CFM & above in all struts including over burden up to 20 mts fixing of casing pipes, collars and cap with necessary cutting, threading and welding including transportation of rig and supporting vehicles, crew charges and cost of consumables etc., complete including yield testing at the final depth with a minimum working of compressor for one hour (excluding coat of casing pipes, collars, cap etc.,) P. 46 / I. 9.1 PRED SR 2012-13 - 200 to 250m	Work done up to the billed quantity and quality is satisfactory

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62	Supply of ISI mark 175 mm nominal bore, Plain end steel casing pipe - grade of Steel Fee 410 of wall thickness 5.4mm thick confirming to IS 4270:2001 and latest amendments, electric resistance welded steel tube material and confirming to IS 1387/1993 and manufactured by basic open hearth electric or basic oxygen process in random length of 5 to 7 mts both ends threaded confirming tie IS 554/1985, one end fixed with socket confirming to IS 4270:2001 and the other end with screwed pipes ISI Marking weighing 25.10Kg/mtr (Inclusive of all taxes and durties) Prices include Collar-medium duty P. iii, I No. 84 PRED SR 2012-13	Work done up to the billed quantity and quality is satisfactory
63	Providing 250mm dia PVC Pipe 6kg/cm SE PRED Approved Rate	Work done up to the billed quantity and quality is satisfactory
64	Providing and fixing 160mm Bore well Cap P. iii, I No. 85	Work done up to the billed quantity and quality is satisfactory
65	Supply and delivery at site brand New texmo/ innoval/ Lubi/ Sabar / Atlanta/ Calomel/ make suitable for vertical installation in 150mm dia bore well comprising of single stage or multistage CF pump close coupled by means of stainless steel coupling to suitable HP suitable speed totally enclosed and filled with pure drinking water (Wet type) squirrel cage submersible induction motor suitable for operation of 3PH., 50 Hz, 380/440 volts AC supply fitted with required accessories such as suction, casing suction strainers sand guard Non return value etc. Complete. The pump and motor shall form an integral unit with all the required fittings 12.50 HP 25 stage. ATALANTA< SUGNA< CRI, KIRLOSKAR and other Equivalent Pumps PWD SR 2016-17 P. XXXXII Item No. 24 including of all taxes-12.5 HP 25 Stage	Work done up to the billed quantity and quality is satisfactory
66	Supplying of ISI marked galvanized mild steel tube (continuously welded electric resistance welded (ERW) high frequency, induction welded (HFIW) Hot finished welded type of nominal bore given below screwed at both ends as per IS 554/1986 with latest amendments, pipes threats at one end and the other end protected aspen specification in random lengths of 4 to 7 mtr Confirming to IS 1239 part I/1990 with amendment 1-5 and with all its latest amendments if any. The pipes supplied should be with BIS mark No 3/08-09 2406/15.10.2008	Work done up to the billed quantity and quality is satisfactory
67	Heavy Duty Collar 50 mm dia	Work done up to the billed quantity and quality is satisfactory
68	Supplying and drawing 3 core flat PVC sheathed submersible pump cable manufactured with electrolytic grade copper with flexible copper with low resistance conductor confirming to table 3 class 5 of IS:8130-1984 and virgin grade PVC insulation and powder coating extruded PVC sheathed suitable for working voltage up to 1100Volts as per IS-694:1990 & confirming to GTP of GROUP-A. P. No. 12 / I No. 2.10.4(1) 3C x 6 Sqm mm KPWD Electrical SR 2014-15	Work done up to the billed quantity and quality is satisfactory

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69	Erection of pump set including aligning and balancing with all necessary erection materials and labor including supply and erection of one pair supporting clamps, one bore well cap. Cable clips with bolts, nuts, valves gauges etc., involved in the job (Necessary GI pipe and specials with be supplied by the board at the site free of cost) (As per rate approved KUWS & DB for year 2008-09	Work done up to the billed quantity and quality is satisfactory
70	Supplying and fixing 20"x20"x2.5" polished wood board made of not less than 15mm thick plank on both sides with planks made out of not more than 2 pieces and fixing the same to the wall using tapered inverted wooden plugs screws etc., P No. 44 / I No. 6.6.6 KPWD Electrical SR 2014-15	Work done up to the billed quantity and quality is satisfactory
71	Supplying of 1.1 KV LT UG cable having aluminum conductor PVC insulated, extruded inner sheathed, galvanized, steel strip (except 2CX10Sq.mm wire armored) confirming to IS-3975:1990 (No. of Strip indicated in GTP) & extruded PVC outer sheathed armored cable with specified IS-1554 Part-1:1988 & confirming to GTP of GROUP-A P No. 55/ I No. 7.4.4 4 core 16 Sqmm KPWD Electrical SR 2014-15	Work done up to the billed quantity and quality is satisfactory
72	Labor charges for laying of 1.1 KV class UG cable in existing trench GI pipe / stoneware pipe / on wall / on pole as required. In existing trench/duct. P No. 61 / I No. 7.8.1 6Sqmm to 16 Sqmm) KPWD Electrical SR 2014-15	Work done up to the billed quantity and quality is satisfactory
73	Digging of trench of 0.6m deep x 0.50 mtr wide refilling the trench to the required ground level and consolidating etc., complete.(As per Civil SR KSRB I-2, P-7) P No. 61 / I. No. 7.9.3 KPWD Electrical SR 2014-15	Work done up to the billed quantity and quality is satisfactory
74	Supplying and fixing of class A (medium duty) GI pipe of wall thickness not less than 3.25mm on pole/wall/drain crossing with necessary clamping arrangements for UG cable of 1.1 KV P. No. 62 / I No. 7.12.1 KPWD Electrical SR 2014-15 - 40mm dia GI pipe	Work done up to the billed quantity and quality is satisfactory
75	Supplying and fixing L.T. cast Iron pot heads suitable for 1.1 KV class UG cable filled with necessary bitumen/insulating compound complete with terminals, clamps, bolts, nuts and washers etc., P. No. 62 / I.No. 7.13.2 KPWD Electrical SR 2014-15 - 16Sqmm	Work done up to the billed quantity and quality is satisfactory
76	Supplying, fixing, wiring, earth electrode for grounding conduits, I.C. cutouts and other equipment's on the meter board using 40mm dia 2.90mm thick GI pipe 2.5 mtr long buried in a pit … The pit should be filled with equal proportion of salt and charcoal 150mm all-round the pipe to complete depth. The connection from the pipe to the conduit etc., is to be established through GI wire of size as per ISI specification 7.3.3. of IS 732 using 12mm dia bolts, nuts, washers and check nuts etc., the pipe shall have 16 through holes of 122 mm dia, (P No. 55, I No. 7.1) KPWD Electrical SR 2014-15	Work done up to the billed quantity and quality is satisfactory
77	Supplying & fixing of Porcelain fuse channel with cut out on existing wooden/panel using necessary nuts, bolts and washers` No. 44 / I No. 6.7.2 KPWD Electrical SR 2014-15 - 32 Amps	Work done up to the billed quantity and quality is satisfactory

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78	KSRB 13-7.1-4: Providing and fixing in position 50mm nominal bore gun metal non-return valve horizontal type of approved make including cost of all materials, labor and HOM of equipment's with all leads complete as per specifications NO KBS 13.2.16 / 13.13 Page No. 93 Item No. 13.55 / PWD SR 2016-17	Work done up to the billed quantity and quality is satisfactory
79	Providing NP/CP waste unions conforming to ISI specifications and fixing them in position as per directions including cost of materials, fixtures and conveyance to work spot etc., complete. P. No. 95 / I. No. 13.81.3 PWD SR 2016-17	Work done up to the billed quantity and quality is satisfactory
80	Supplying and fixing 50mm dia GI X nipple with ISI mark with all lead and lift loading unloading and labor charges etc. complete	Work done up to the billed quantity and quality is satisfactory
81	Supplying shunt capacitors conforming to IS 2834, 3phase 400/440 volts grade for power factor improvement of rotating machinery, Capacitor in KVAR rating Nos. 2KVAR capacity with all lead and lift =, loading, unloading and labor charges etc. complete as per specifications	Work done up to the billed quantity and quality is satisfactory
82	Supplying and fixing miniature circuit breakers on existing MCB distribution boards using necessary fixing materials and 'C' Type curve, indicator ON/OFF, energy cross-3 with Short circuit breaking capacity of 10K and complete wiring as required confirming to IEC 60898. 5-32Amps TPN P No. 47 / I No.6.16.5 KPWD SR 2014-15	Work done up to the billed quantity and quality is satisfactory
83	Fabricating supplying and mounting MS box made out ... SWG suitable for floor / wall mounting, fully weather proof with provision for better heat dissipation, provided with hinged front cover, equipped with tamper proof locking arrangements, with suitable size clamps with necessary cable entry pipe with gland and box should be finished with 2 coats of red oxide primer paint and finally finished with approved color enameled metal paint etc., complete P.No. 49, I. No. 6.40.2 KPWD Electrical SR 2014-15 - 16SWG	Work done up to the billed quantity and quality is satisfactory
84	Supplying and delivery at site brand new star / Essen/ Lotus/Sun-shines/Adarsh/ GK Controls best indigenous make combined energy meter - cum- control panel board unit of size 600x450 x200 mm minimum mechanically strong vermin and water proof. The unit shall have two detachable doors suitable for operation on 3 ph., 50Hz, 380/440 volts, A.C supply with spring loaded latch, locking device with a key ribs should be provided inside the door, canopy apron and louvers ventilators shall be provided. The combined energy meter cum- control panel board unit suitable for operation. The panel board shall be fabricated on single unit in the above components for suitable pump set. 12.5HP to 15 HP Star Delta Starter SERDED Rate	Work done up to the billed quantity and quality is satisfactory
85	Earthwork excavation for pipeline trenches including deporting or bank up to a lead of 50 mtrs including sherry and stating danger lighting and using site rails and booming poles at every 100 mtrs wherever necessary as directed in the following structure manhole. Page No. 01/ Item No.1.2.2 / PRED SR 2012-13 Hard Soil	Work done up to the billed quantity and quality is satisfactory

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86	Providing and installation at site of works P.V.C. Pipes including cost of pipes and specials and including lowering into trenches, laying true to line, level and perfect linking at joints, leak proof including jointing encasing the pipe around to a depth Not less than 15cm with grave or selected earth available from the excavation Etc., Page No.15 item No.3.4.2 b PRED SR 2012-13. - 75 mm dia 6 KSC PVC pipe	Work done up to the billed quantity and quality is satisfactory
87	Refilling the basement and pipeline trenches with selected available earth for trench excavation including authority condition in layers from their including dispensary of the surplus earth with a heavy 200 mtrs Page No. 3 / Item No. 1.6 / PRED SR 2012-13	Work done up to the billed quantity and quality is satisfactory
88	KSRB 13.6.3-6: Providing and fixing in position brass gate valve with C.I wheel of approved quality (screwed end) 50mm nominal bore including cost of all materials, labor and HOM of equipment's with all leads complete as per specifications. Specification No. KBS 13.2.6/13.3 P. 92 / I.13.37 PWD SR - 2016-17	Work done up to the billed quantity and quality is satisfactory

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